

IN THE CLAIMS

1. (Cancelled)

2. (Previously Presented) A semiconductor device having a MEMS, comprising:
a semiconductor substrate (1) on which an integrated circuit is formed; and
a plurality of units (2) which are formed on said semiconductor substrate and comprise
movable portions (202) that physically move on the basis of a first electrical signal,
each of said units comprising at least
a control electrode (21) which supplies a control signal for causing the movable portion
to physically move,
a driving circuit (22) which outputs the control signal to the control electrode on the basis
of the first electrical signal,
a sensor electrode (23) which detects physical motion of the movable portion,
a sensor circuit (24) which generates a second electrical signal corresponding to physical
motion of the movable portion on the basis of a signal from the sensor electrode,
a memory (25) which holds an externally input setting value, and
a processor (26) which generates the first electrical signal on the basis of the setting value
held in the memory, and controls output of the control signal from the driving circuit on the basis
of the generated first electrical signal and the second electrical signal, thereby controlling
operation of the movable portion,
wherein the driving circuit, the sensor circuit, the memory, and the processor are
constituted by part of the integrated circuit, and
wherein the movable portion includes a mirror which is rotatably coupled to a mirror
substrate,
the mirror substrate is supported by a support member which is formed from a conductive
material on said semiconductor substrate via an interlayer dielectric layer,
the control electrode and the sensor electrode are arranged on the interlayer dielectric
layer below the mirror so as to be insulated from the support member, and
the mirror is arranged at a predetermined distance above the control electrode and the
sensor electrode.

3. (Original) A device according to claim 2, wherein the sensor electrode is arranged outside the control electrode in a region below the mirror.

4. (Original) A device according to claim 2, wherein the control electrode is arranged outside the sensor electrode in a region below the mirror.

5. (Original) A device according to claim 2, further comprising an insulating resin protective film which covers an upper surface of the control electrode.

6. (Cancelled)

7 – 14 (Cancelled)